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EXAMINER
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CATINA, MICHAEL ANTHONY

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* PAOLO BOSCHETTI SACCO

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Appeal 2015-007923  
Application 12/298,625  
Technology Center 3700

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Before KEN B. BARRETT, EDWARD A. BROWN, and  
LEE L. STEPINA, *Administrative Patent Judges*.

BARRETT, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Paolo Boschetti Sacco (Appellant) seeks our review under 35 U.S.C. § 134 of the Examiner's rejection of claims 27–41. We heard oral argument on September 20, 2017. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

## THE INVENTION

Appellant's claimed invention pertains to spirometry—"a diagnostic test providing the analysis of the respiratory functionality"—and specifically to providing an incentive to the patient to breathe out all the air in the lungs at the maximum speed possible. Spec. 1:1–8. The Specification describes Appellant's system as involving the "progressive opening of a curtain (or other alternative mechanism) related to the spirometry test" that unveils an image having meaning only if completely unveiled. *Id.* at 4:23–32.

Claims 27 and 38 are independent. Claim 27, reproduced below, is illustrative of the subject matter on appeal.

27. An incentive method for a spirometry test utilizing two images, comprising:

connecting a spirometer to a computer device and a display mechanism;

progressively sliding open, with an incentive control mechanism, a first covering image representing a curtain, the first image being controlled by the incentive control mechanism related to respiration, and a second incentive image represents an incentive to the spirometry and is completely independent both of the first covering image and the respiration;

controlling the incentive control mechanism, via a calculation algorithm based on a combination of both the patient's respiration flow rate and volume of exhaled air compared with theoretical values, so that said first covering image progressively opens and automatically gradually unveils the second incentive image as a function of both the patient's respiration flow rate and volume of exhaled air, said calculation algorithm being executed by said computer device,

the second incentive image being completely independent from both of the first covering image and the respiration,

the second incentive image being chosen in a personalized way according to the patient from a virtually infinite number of fixed or animated images, and

the second incentive image functioning as a stimulation event by inducing psychologically the patient to a complete viewing of the second incentive image by performing an entire spirometric procedure; and

choosing said second incentive image from one of i) a list of available fixed or animated images and ii) importing said second incentive image as an image file,

wherein the calculation algorithm remains the same for any chosen incentive image.

App. Br. 32–33 (Claims Appendix).

### THE REJECTIONS

The following Examiner’s rejections are before us for review:

1. Claims 27–41 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter;
2. Claims 27, 32, 33, and 38 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement;
3. Claims 27–33, 36, and 38–41 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Quinn (US 2006/0206036 A1, pub. Sept. 14, 2006), Tanaka (US 6,256,040 B1, iss. July 3, 2001), and Hofmeister (US 2006/0284852 A1, pub. Dec. 21, 2006); and
4. Claims 34, 35, and 37 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Quinn, Tanaka, Hofmeister, and Dunning (US 4,296,756, iss. Oct. 27, 1981).

## ANALYSIS

### *A. The § 101 Non-Patentable Subject Matter Rejection*

Appellant argues the rejected claims 27–41 as a group. App. Br. 5–6. We select claim 27 as representative, and decide the appeal as to this rejection on the basis of that claim. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Upon consideration of the evidence on this record and Appellant’s arguments, we find that the preponderance of evidence on this record supports the Examiner’s conclusion that the subject matter of claim 27 is directed to non-statutory subject matter. In this regard, we adopt the findings and reasoning of the Examiner found on pages 2–3 of the appealed Non-Final Action. Specifically, we agree with the Examiner that claim 27 is directed to an abstract idea and that the claims do not include significantly more than the abstract idea. We also adopt the Examiner’s response to Appellant’s arguments, as found on page 2 of the Answer.

We add the following for emphasis only.

We agree with the Examiner’s determination that the claims are directed to the abstract idea of an incentive spirometry test “using an algorithm to control the displayed matter, specifically the movement of the covering image.” Ans. 2; *see* Non-final Act. 3. We note that Appellant characterizes the claimed invention in a manner similar to that of the Examiner, maintaining: “The present invention is a spirometry test that requires a spirometer, a computer and a display [and] [t]he transformation of the present invention is the completion of a spirometry test with the aid of a

two-part incentive display.” App. Br. 5<sup>1</sup> (emphasis omitted); *see also id.* at 12 (Appellant referring to “the algorithm underlying the incentive mechanism which is the object of the patent application.”). The recitation of “connecting a spirometer to a computer device and a display mechanism” and the use of such components is well-understood conventional activity already engaged in by those skilled in the art. *See* Ans. 2 (citing Quinn); Quinn, Abstr. (disclosing a motivational spirometry system using a display screen and a processor); Hrg. Tr. 4:16–20 (“Both [Quinn and the claimed invention] use computer technology, at least to the extent of using computer technology to display a image onto a screen in order to incentivize a subject to give the best possible performance for a spirometry test.”). Thus, when the claim is viewed as a whole, the use of these components adds nothing significant to the abstract idea.

During the hearing, Appellant cited for the first time, but did not discuss in any detail or adequately analogize to the claimed invention of this appeal, two cases in which our reviewing court ruled in favor of patentable eligibility under § 101. Hrg. Tr. 14:1–15:8. We are not persuaded that those cases lead to a different outcome in this case. *See Bascom Global Internet Svcs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350–51 (Fed. Cir. 2016) (finding patent eligibility where the claims may be read to improve an

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<sup>1</sup> We understand Appellant’s reference to a “transformation” to be in response to the Examiner’s application of the second step of the *Alice* test, with the Examiner determining that the additional claim elements, e.g., generic computer structure, do not transform the abstract idea into a patent-eligible application of the abstract idea. Non-Final Act. 3; *see Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014) (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct., 1289, 1298 (2012)).

existing technological process, namely filtering content on the internet); *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1307, 1315 (Fed. Cir. 2016) (finding patent eligibility of claims directed to a “method for automatically animating lip synchronization and facial expression of three-dimensional characters” where the “claimed process uses a combined order of specific rules that renders information into a specific format that is then used and applied to create desired results”).

We sustain the Examiner’s rejection of claims 27–41 as being directed to non-statutory subject matter.

*B. The Written Description Rejection*

Independent claim 27 recites “a calculation algorithm based on a combination of both the patient’s respiration flow rate and volume of exhaled air compared with theoretical values.” Independent claim 38 contains the same or similar recitation. We understand the Examiner’s written description rejection to be concerned with the use of plural “theoretical values” in the comparison. *See* Non-Final Act. 4; Ans. 2–3. The Examiner points to “Paragraph 34,” presumably referring to the paragraph of the published application corresponding to page 5, lines 26–30, of the original Specification, as disclosing a comparison to a single theoretical value. *See* Ans. 2–3. The Examiner maintains that one of ordinary skill would not understand that the applicant intended there to be a comparison of multiple values. *Id.*

We observe that the Specification also refers to plural “values” in locations other than Paragraph 34, including computing and comparing data to the theoretical values. Spec. 9:3–7, 12:1–5, Fig. 5; *see* App. Br. 18

(referring to the flow chart of Figure 5). In light of this, we cannot sustain the written description rejection based on the finding that Paragraph 34 does not refer to plural “values.”

*C. The Obviousness Rejections*

Claims 27–33, 36, and 38–41 stand rejected as being obvious over Quinn, Tanaka, and Hofmeister. Appellant argues the rejected claims as a group, App. Br. 9, and we select claim 27 as representative of the claimed subject matter for purposes of deciding the appeal as to this rejection.

The Examiner relies on Quinn for much of the claimed subject matter. Non-Final Act. 4–5. It is undisputed that Quinn discloses a spirometry incentive test. *Id.* at 4; App. Br. 20–21. Quinn describes an embodiment using an animation involving a firefighter, where the magnitude and distance of the water from the firehose is related to the peak flow rate goal and the degree the fire is extinguished is related to the respiratory volume goal. Quinn ¶ 41. The animation proceeds sequentially with the fire extinguishing beginning when the goal for the highest water flow is reached. *Id.* ¶ 44. The Examiner found that Quinn does not disclose that the incentive image is covered by another image or the sliding of a covering to uncover the underlying image. Non-Final Act. 5–6. The Examiner relies on Tanaka for the teaching of the use of a covering image and then revealing an underlying image based on user performance, thereby providing an incentive for the user to complete a game. *Id.* The Examiner relies on Hofmeister for the teaching of the use of a sliding motion of an image to reveal an underlying image. *Id.* at 6.



Appellant argues that “[t]he applied art fails to teach or infer an algorithm utilizing a **combination** of both the patient’s respiration flow rate and volume of exhaled air compared with a theoretical value that is a unique single value.” App. Br. 5; *see also id.* at 20–21, 23.

Claim 27 broadly claims controlling an incentive control mechanism and performing this “via a calculation algorithm based on a combination of both the patient’s respiration flow rate and volume of exhaled air compared with theoretical values.” The claim further informs that the covered image is unveiled “as a function of both the patient’s respiration flow rate and volume of exhaled air.” Appellant’s contention regarding an algorithm “utilizing” a combination of values appears to be based on a narrower interpretation than that appropriate for the recitation in claim 27 of an algorithm merely being “based on a combination” of values. Additionally, to the extent that Appellant argues that the claim requires that all the values in the claim be distilled into “a unique single value,” we are not persuaded because the claim language does not require such a narrow reading. *See* Ans. 3 (The Examiner, in responding to Appellant’s arguments, stating: “The limitation in the independent claims reciting that a combination of flow and volume is compared to ‘theoretical values’ does not limit the interpretation to the flow/volume curve of the instant specification.”); *cf.* App. Br. 17 (conceding that the concept of flow/volume curve area, upon which it now bases its “unique single value” theory, does not appear in the Specification).

As Appellant acknowledges, Quinn discloses a motivational spirometry test where peak flow rate and total flow volume values are obtained and compared to “normative,” i.e. theoretical, values. App. Br. 21. As Appellant also acknowledges, “[i]n this [motivational] animation [of

Quinn,] both values of peak flow rate and total volume flow generate a particular aspect of what is shown (the distance of the water flow and the degree of the fire extinguished).” *Id.* at 21. Accordingly, Quinn discloses controlling an incentive control mechanism via a combination of comparative values and therefore satisfies the recited limitation. *See* Non-Final Act. 10, 14.

Appellant argues that one would not cover Quinn’s firefighter animation because that would “not allow the user to immediately understand how he/she is performing the spirometry test” and, therefore, combining Quinn with Tanaka’s covering image “would change the principle of operation of the reference and make it unsuitable for its intended purpose.” App. Br. 23–24. This argument is not persuasive as it is premised on the presumption that one of ordinary skill would blindly combine the embodiments rather than the references’ teachings. *See* Ans. 4 (explaining how Tanaka’s teaching of a display method of uncovering an image would be controlled by Quinn’s spirometry in the modified combination); *id.* (“Tanaka teaches using a covering image and the removal thereof as incentive to finish the game in a manner similar to how Quinn uses the fire image as motivation to complete test.”); *see also In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference . . . . Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.”); *see also KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”). Further and as the Examiner notes, Quinn teaches that animations (i.e.

images) other than the firefighter may be used. Non-Final Act. 15 (citing Quinn ¶ 50). Lastly, even were Tanaka's embodiment bodily incorporated over Quinn's firefighter image, we fail to see why the progressive revealing of the underlying image would not incentivize further efforts by the patient to continue the reveal.

For similar reasons, we are not persuaded by Appellant's arguments—again, premised on bodily-incorporation—that Tanaka requires controls like a joystick (App. Br. 24–25) and that Hofmeister directly manipulates the covering image via fingers or hands (*id.* at 27–28). *See* Ans. 5.

Appellant also argues that Tanaka is non-analogous art because it pertains to gaming, not medical technology. *Id.* at 25. We are not persuaded because “Quinn discloses that the spirometry art, especially in relation to testing children, has incorporated features of computer games and displays.” Ans. 4. Thus, games and displays are pertinent to the problem with which Appellant was concerned and are in the same field of endeavor as the claimed invention.

We have considered Appellant's remaining arguments and do not find them persuasive of error. *See, e.g.*, App. Br. 25 (Appellant seemingly arguing that the claim requires a “unique, single [theoretical] value” notwithstanding the use of the plural “values” in claim 27).

We have not been informed of error in and thus sustain the Examiner's rejection of claims 27–33, 36, and 38–41 as being obvious over Quinn, Tanaka, and Hofmeister.

Claims 34, 35, and 37 stand rejected as being obvious over Quinn, Tanaka, Hofmeister, and Dunning. Appellant argues that the teachings of Dunning do not address the deficiencies of the underlying combination of

Quinn, Tanaka, and Hofmeister. App. Br. 29. As discussed above, we do not find such alleged deficiencies, and therefore sustain the rejection of claims 34, 35, and 37.

### CONCLUSIONS

We sustain the rejection of claims 27–41 under 35 U.S.C. § 101; the rejection of claims 27–33, 36, and 38–41 as being obvious over Quinn, Tanaka, and Hofmeister; and the rejection of claims 34, 35, and 37 as being obvious over Quinn, Tanaka, Hofmeister, and Dunning.

We do not sustain the rejection of claims 27, 32, 33, and 38 for failing to comply with the written description requirement.

### DECISION

The decision of the Examiner to reject claims 27–41 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED